

AMENDMENTS TO THE CLAIMS

1-12. (Cancelled)

13. (New) A humidity control system comprising:

a refrigerant circuit comprising

a compressor for compressing a refrigerant,

a first adsorber formed by an adsorption heat exchanger having the refrigerant flowing inside therethrough and having an adsorbent carried on the outer surface for adsorbing or desorbing moisture,

an expansion valve for expanding the refrigerant,

a second adsorber formed by an adsorption heat exchanger having the refrigerant flowing inside therethrough and having an adsorbent carried on the outer surface for adsorbing or desorbing moisture, and

a four-way selector valve;

wherein the first adsorber and second adsorber control the amount of humidity of air to be processed using an adsorbent,

the refrigerant circuit thermally regenerates the first adsorber and second adsorber with heat of the refrigerant, and

the humidity control system is configured so that the sensible heat zone (R) for the refrigerant is larger than that for R22 when compared in terms of refrigeration cycles having substantially the same discharge temperature (B).

14. (New) The humidity control system of claim 13, wherein the refrigerant circuit is configured so that the pressure of the refrigerant in the high-pressure side of the refrigeration cycle is higher than the critical pressure of the refrigerant.

15. (New) The humidity control system of claim 13, wherein the refrigerant is a single refrigerant of R32.

16. (New) The humidity control system of claim 13, wherein the refrigerant is a mixed refrigerant containing R32 in the range from 75 weight% inclusive to 100 weight% exclusive.

17. (New) The humidity control system of claim 14, wherein the refrigerant is CO₂ refrigerant.

18. (New) The humidity control system of claim 13, wherein the first adsorber comprises a plurality of fins.

19. (New) A humidity control system comprising:
a refrigerant circuit comprising
 a compressor for compressing a refrigerant,
 a first adsorber formed by an adsorption heat exchanger having the refrigerant flowing inside therethrough and having an adsorbent carried on the outer surface for adsorbing or desorbing moisture,
 an expansion valve for expanding the refrigerant,
 a second adsorber formed by an adsorption heat exchanger having the refrigerant flowing inside therethrough and having an adsorbent carried on the outer surface for adsorbing or desorbing moisture, and
 a four-way selector valve; and
a plurality of dampers controlling the flow of air,
wherein the first adsorber and second adsorber control the amount of humidity of air to be processed using an adsorbent,
the refrigerant circuit thermally regenerates the first adsorber and second adsorber with heat of the refrigerant, and
the humidity control system is configured so that the sensible heat zone (R) for the refrigerant is larger than that for R22 when compared in terms of refrigeration cycles having substantially the same discharge temperature (B).

20. (New) The humidity control system of claim 19, wherein the refrigerant circuit is configured so that the pressure of the refrigerant in the high-pressure side of the refrigeration cycle is higher than the critical pressure of the refrigerant.

21. (New) The humidity control system of claim 19, wherein the refrigerant is a single refrigerant of R32.

22. (New) The humidity control system of claim 19, wherein the refrigerant is a mixed refrigerant containing R32 in the range from 75 weight% inclusive to 100 weight% exclusive.

23. (New) The humidity control system of claim 20, wherein the refrigerant is CO₂ refrigerant.